

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/761,433	SHIOZAKI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Fayez G. Assaf	2872	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the application filed 1/22/04.
2. ☒ The allowed claim(s) is/are 1-29 and 31-48.
3. ☒ The drawings filed on 28 June 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br/>Paper No./Mail Date <u>1/11/05</u></li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____</li> </ol> |
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Art Unit: 2872

**EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Brian Seidleck (Reg. No. 51321) on 2/16/2005.

The application has been amended as follows:

In the claims:

Claim 30 has been canceled.

Claim 31, line 2, the phrase "claim 30" has been changed to --claim 20--.

Claim 32, line 2, the phrase "claim 30" has been changed to --claim 20--.

Claim 33, line 2, the phrase "claim 30" has been changed to --claim 20--.

20. (currently amended) A diffraction grating element, comprising:

a transparent plate having a first surface and a second surface that are substantially parallel with one

Art Unit: 2872

another,

wherein:

the transparent plate is made of silicaglass to which an impurity has been added at a different concentration in the thickness direction; and

a diffraction grating which is formed on a first surface side with respect to the second surface and is substantially parallel with the first surface,

wherein:

the diffraction grating element is disposed in air; and

the rate of change in the period per unit length of the diffraction grating with respect to a temperature change is from  $0.65 \times 10^{-6}/K$  to  $1.11 \times 10^{-6}/K$ .

37. (currently amended) A diffraction grating element, comprising:

a transparent plate having a first surface and a second surface that are substantially parallel with one another,

wherein:

the transparent plate is made of silicaglass to which an impurity has been added at a different concentration in the thickness direction; and

Art Unit: 2872

a diffraction grating which is formed on a first surface side with respect to the second surface and is substantially parallel with the first surface,

wherein:

the diffraction grating element is disposed in a hermetically sealed gas or in a vacuum; and

the rate of change in the period per unit length of the diffraction grating with respect to a temperature change is  $2.4 \times 10^{-7}/K$  or less.

#### ***Reasons for Allowance***

Claims 1-19 are allowable over the prior art for at least the reason that the prior art fails to teach or reasonably suggest the sum being zero at any temperature with a temperature range -20 to +80 degrees centigrade as set forth in the claimed combination.

Claims 20-29 and 31-48 are allowable over the prior art for at least the reason that the prior art fails to teach or reasonably suggest the transparent plate being made of silica glass to which an impurity has been added at a different concentration in the thickness direction as set forth in the claimed combination.

Art Unit: 2872

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hayashi et al. (US 6,775,065 B2)

Nakamura et al. (US 2004/0048076 A1)

Minami et al. (US 2003/0146415 A1)

Londono et al. (US 5,260,828)

### ***Conclusion***

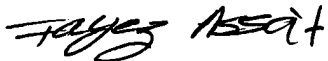
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fayez G. Assaf whose telephone number is (571) 272-2307. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2872

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Faye G. Assaf  
Primary Examiner  
Art Unit 2872  
2/17/05